IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number   7,142,609 B2

Issued   11/28/2006

Name of Patentee   Gérard Terreault

Title of Invention   METHOD AND APPARATUS FOR DETECTING AND QUANTIFYING IMPAIRMENTS IN QAM SIGNALS

ATTN: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT

Please issue a Certificate of Correction for the following mistakes in the above-referenced patent

☒ FOR PTO MISTAKE (37 C.F.R. § 1.322(a))

The exact page and line number where the errors are shown correctly in the application file are:

1. In the amendment dated May 3, 2006, page 2, second (2nd) bullet point shows a request to amend the specification on page 29 by inserting the new paragraph [including steps a), b), and c)] **after** the paragraph starting on page 29, line 10

2. In the amendment dated November 21, 2005, page 2, claim 4 (issued as claim 1), line 3

3. In the amendment dated November 21, 2005, page 2, claim 4 (issued as claim 1), line 20

4. In the amendment dated November 21, 2005, page 3, claim 4 (issued as claim 1), line 2

5. In the amendment dated November 21, 2005, page 3, claim 4 (issued as claim 1), line 5

6. In the amendment dated November 21, 2005, page 3, claim 4 (issued as claim 1), line 7

7. In the amendment dated November 21, 2005, page 3, claim 4 (issued as claim 1), line 8

8. In the specification, page 31, claim 5 (issued as claim 3), line 23

9. In the specification, page 32, claim 6 (issued as claim 4), line 11 and 12

10. In the specification, page 33, claim 8 (issued as claim 6), line 22 and 23

11. In the specification, page 34, claim 8 (issued as claim 6), line 13

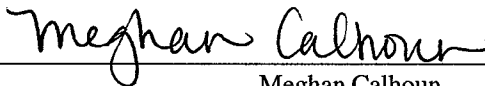12. In the specification, page 34, claim 9 (issued as claim 7), line 23

13. In the specification, page 36, claim 12 (issued as claim 10), line 8

14. In the amendment dated November 21, 2005, page 8, claim 18 (issued as claim 12), line 6

15. In the amendment dated November 21, 2005, page 8, claim 18 (issued as claim 12), line 14

16. In the amendment dated November 21, 2005, page 10, claim 18 (issued as claim 12), line 3

The exact column and line number where the error occurs in the Patent are:

1. Column 14, line 36, delete the following that begins with "Referring now to FIG. 9. according to one aspect...", and ends with "(15%) can be extracted." on column 15, line 3, and insert the following:

The proposed method is to use spectrum analyzer functionality to sample the signal amplitude with a resolution bandwidth of the same order of magnitude as the signal (i.e. 1 or 3 MHz) for the 6 MHz signal, but a small video bandwidth (1 kHz); to trigger the sampling sequences to the power line and apply averaging preferably over between twenty (20) and two hundred (200) averages. By zooming onto the small amplitude modulation, a peak-to-peak modulation from one tenth (0.1%) of a percent to fifteen percent (15%) can be extracted.

Referring now to FIG. 9, according to one aspect of the present invention, there is provided a method 900 for detecting and quantifying impairments of a received communication signal of a quadrature amplitude modulation data communication system represented by a plurality of ideal values, said method comprises the steps of:

a) storing 902 a statistically significant number of a plurality of received points of said signal for each of said ideal values corresponding to a plurality of groups of said plurality of ideal values, each of said received points being defined by an in-phase and a quadrature components in a coordinate system in which a first axis is an in-phase axis and a second axis is a quadrature axis, said components having corresponding ideal components from their respective of said ideal values, each of said groups corresponding to a respective of said impairments and being specific to the same;

b) analyzing 904 said components of said received points of respective of said groups in relation with their respective of said ideal components of said ideal values to quantify said impairments of said signal and provide calculated values of the same; and

c) displaying 906 said calculated values of said impairments.

2.   Column 15, claim 1, line 15, delete "(OAM)" and insert therefor -- (QAM)--

3.   Column 15, claim 1, line 34, delete "qadrature" and insert therefor -- quadrature--

4.   Column 15, claim 1, line 36, delete "quadruture" and insert therefor -- quadrature--

5.   Column 15, claim 1, line 40, delete "imparments" and insert therefor -- impairments--

6.   Column 15, claim 1, line 42, delete "compression ratio. I/O" and insert therefore -- compression ratio, I/Q--

7.   Column 15, claim 1, line 42, delete "I/O phase" and insert therefor -- I/Q phase--

8.   Column 15, claim 3, line 61, delete "cower" and insert therefor -- corner--

9.   Column 16, claim 4, line 11, delete "ia-phase" and insert therefore -- in-phase--

10.   Column 16, claim 6, line 59, delete "sub-avenge" and insert therefore -- sub-average--

11.   Column 17, claim 6, line 13, delete "Conning" and insert therefore -- forming--

12.   Column 17, claim 7, line 25, delete "bath" and insert therefore -- both--

13.   Column 18, claim 10, line 1, delete "band" and insert therefore -- baud--

14.   Column 18, claim 12, line 26, delete "(hum) said" and insert therefore -- (hum), said--

15.   Column 18, claim 12, line 36, delete "rare" and insert therefore -- rate--

16.   Column 20, claim 12, line 3 and 4, delete "peak-re-peak" and insert therefore -- peak-to-peak--

COMMENTS

All mistakes are of a clerical nature, a typographical nature or mistakes of minor character. None of the proposed corrections constitute new matter.

☒   Attached hereto is Form PTO-1050.

☒   Please send the Certificate to:

Name	Mikio Ishimaru
Address	The Law Offices of Mikio Ishimaru
	333 W. El Camino Real, Suite #330
	Sunnyvale, CA 94087

☐   Charge Deposit Account <u>50-0374</u> the sum of <u>$0.00</u>, as required by 37 CFR 1.20(a), and the fee for _____ additional copies of the Certificate of Correction. A duplicate of this request is attached.

☒   Please charge any shortage in fees due in connection with the filing of this paper to Deposit Account No. <u>50-0374</u> and credit any excess fees to such deposit account.

Mikio Ishimaru

Mikio Ishimaru
Reg. No.: 27,449

Date: December 8, 2006

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO   : 7,142,609 B2   Page 1 of 2

DATED   : November 28, 2006

INVENTOR(S) : Terreault, et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 14

Line 36, delete the following that begins with "Referring now to FIG. 9. according to one aspect...", and ends with "(15%) can be extracted." on column 15, line 3, and insert the following:

The proposed method is to use spectrum analyzer functionality to sample the signal amplitude with a resolution bandwidth of the same order of magnitude as the signal (i.e. 1 or 3 MHz) for the 6 MHz signal, but a small video bandwidth (1 kHz); to trigger the sampling sequences to the power line and apply averaging preferably over between twenty (20) and two hundred (200) averages. By zooming onto the small amplitude modulation, a peak-to-peak modulation from one tenth (0.1%) of a percent to fifteen percent (15%) can be extracted.

Referring now to FIG. 9, according to one aspect of the present invention, there is provided a method 900 for detecting and quantifying impairments of a received communication signal of a quadrature amplitude modulation data communication system represented by a plurality of ideal values, said method comprises the steps of:

a) storing 902 a statistically significant number of a plurality of received points of said signal for each of said ideal values corresponding to a plurality of groups of said plurality of ideal values, each of said received points being defined by an in-phase and a quadrature components in a coordinate system in which a first axis is an in-phase axis and a second axis is a quadrature axis, said components having corresponding ideal components from their respective of said ideal values, each of said groups corresponding to a respective of said impairments and being specific to the same;

b) analyzing 904 said components of said received points of respective of said groups in relation with their respective of said ideal components of said ideal values to quantify said impairments of said signal and provide calculated values of the same; and

c) displaying 906 said calculated values of said impairments.

Column 15

    Claim 1, line 15, delete "(OAM)" and insert therefor -- (QAM)--

    Claim 1, line 34, delete "qadrature" and insert therefor -- quadrature--

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    Claim 6, line 59, delete "sub-avenge" and insert therefore -- sub-average--

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Column 18

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    Claim 12, line 26, delete "(hum) said" and insert therefore -- (hum), said--

    Claim 12, line 36, delete "rare" and insert therefore -- rate--

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    Claim 12, line 3 and 4, delete "peak-re-peak" and insert therefore -- peak-to-peak--